

ABSTRACT

10 A plurality of audio inputs which require gain applied are coupled together, the gain is applied and that weighted signal is summed with the output of similar circuits running with different gains. For typical overall gain requirements of 0 to +22.5 dB to be applied in 1.5 dB increments, the new circuit reduces by over two-thirds the number of analog switches required in
15 the level adjusting portion of an audio mixer. More generally, the complexity of the new circuit, in terms of the number of analog switching elements is $2m(1 + \log_2 n)$ for m channels with n gain steps/channel. The number of stages of differing gain is reduced from $2m$ variable gain amplifiers to $2(1 + \log_2 n)$ fixed gain amplifiers.